

IRON HAVING A WATER RESERVOIR WHICH IS PROVIDED WITH
A FILLING ORIFICE ON THE REAR FACE OF THE IRON

The present invention relates to a pressing iron and more particularly to a pressing iron having a water reservoir
5 provided with a filling opening on the rear face of the iron.

There is known from patent application FR 2 830 266, filed by the applicant, a pressing iron having an opening for filling the reservoir placed at the level of the heel of the iron and oriented in a manner such that the filling of the reservoir is
10 carried out by holding the pressing iron substantially vertically, the tip toward the bottom. Such an arrangement makes it possible to have a filling opening of significant size, free of any obstacle, which facilitates rapid filling of the reservoir, by placing it in particular directly under a
15 tap. However, such a pressing iron usually has a steam chamber supplied with a drip device plug that is disposed at the front of the iron for reasons of obstruction.

However, such an arrangement of the drip device plug at the front of the iron presents the disadvantage of making it
20 possible for the water to flow out of the reservoir through the drip device plug when the iron is rocked forwards. It follows that, during the operation of filling of the reservoir, water can flow out of the iron if the user did not think to close the plug, which is objectionable to the user.

25 Therefore, a goal of the present invention is to remedy this disadvantage by offering a pressing iron provided with a reservoir with filling at the rear not allowing water to escape from the reservoir when the iron is placed with its head toward the bottom and in which the flow of water from the

reservoir toward the steam chamber is effectuated correctly when the iron is placed on its soleplate.

To this end, the invention has as an object a pressing iron having a water reservoir provided with a filling opening
5 located on the rear face of the iron so that filling of the reservoir is carried out by holding the iron rocked forwards, the reservoir being in communication with a drip device plug feeding a steam chamber, characterized in that the drip device plug is fed by a canalization opening near the back of the
10 reservoir.

Such a characteristic makes it possible to prevent water in the reservoir from flowing through the valve when iron is rocked forwards, in particular during filling of the reservoir.

15 According to a particular embodiment of the invention, the canalization opens in the lower rear part of the reservoir.

Such a characteristic makes it possible to optimize supplying the valve when iron is posed on its soleplate.

According to another characteristic of the invention, the
20 filling opening of the reservoir is extended inside the reservoir by a sleeve providing in the reservoir, outside the sleeve, a reserve of air during the filling of the reservoir.

Such a characteristic has the advantage of providing a reserve of air that is difficult to fill with water during the filling
25 of the reservoir.

According to another characteristic of the invention, the canalization opens in the reserve of air provided at both sides of the sleeve.

Such a characteristic makes it possible to further limit the risks of flow of water through the drip device plug during filling of the reservoir.

According to still another characteristic of the invention,
5 the reservoir has a wall extending from the bottom of the reservoir and forming a barrier retaining water on the back of the reservoir when the water level in the latter becomes low.

Such a characteristic aids complete emptying of the reservoir through the canalization supplying the valve while retaining,
10 on the back of the reservoir, water coming from waves generated by the front to back movements during ironing. Such a characteristic in particular makes it possible to use a reservoir of which the back part is elevated with respect to the front part, while preserving a good emptying of the
15 reservoir.

According to another characteristic of the invention, the canalization is constituted by a supply tube and the wall forming the barrier extends transversely across the width of the reservoir and vertically over a height corresponding
20 substantially to the external diameter of the supply tube, this wall having an opening for the passage of the supply tube.

According to still another characteristic of the invention, the reservoir has a vent circuit presenting an end opening at
25 the rear part of the reservoir and an end, in contact with the surrounding air, located in the upper front part of the iron.

Such a characteristic makes it possible to vent the reservoir allowing a good flow of water in the direction of the drip device plug and limiting the risks of flow of water out of the

reservoir when iron is rocked forwards or is placed on its heel.

According to still another characteristic of the invention, the vent circuit has a buffer chamber placed in the upper
5 front part of the body of the iron in order to be above the maximum water level in the reservoir when the iron rests horizontally.

Such a characteristic makes it possible to prevent water from escaping through the end of the vent circuit while collecting,
10 in the buffer chamber, water present in the vent circuit when the iron is rocked forwards.

According to still another characteristic of the invention, the vent circuit comprises a pipe of small cross section that opens into the upper rear part of the reservoir and is
15 prolonged by a bell extending toward the bottom and presenting an opening in its lower part.

Such a characteristic makes it possible to limit the volume of the buffer chamber while ensuring a good operation of the vent circuit.

20 One will better understand the goals, aspects and advantages of this invention, according to the description given hereafter of a particular embodiment of the invention presented as a nonlimiting example, while referring to the annexed drawings in which:

25 - figure 1 is a general view, in longitudinal cross section, of a pressing iron according to a particular embodiment of the invention;

- figure 2 is a top view of the pressing iron of figure 1 in which the upper half-view is represented partially broken away;
- figure 3 is a view similar to figure 1, representing the iron in position rocked forwards, adapted for filling of the reservoir.

Figures 1 and 2 represent a diagrammatic view of a steam pressing iron having a heating soleplate 1, a handle 2 and a body integrating a water reservoir 3. Handle 2 is connected to the rear of the iron by two arms 4 extending, while diverging from handle 1, to the body of the iron so that the structure obtained is substantially triangulated and constitutes a heel on which the iron can rest.

In accordance with figure 1, reservoir 3 of the iron comprises a filling opening 5 disposed on the rear face of the iron, between the two arms 4. Opening 5 is inclined towards the rear of the iron so that the filling of the iron is carried out by holding the iron rocked forward, as represented in figure 3. For reasons of obstruction under reservoir 3, the latter presents a back part that is raised relative to the front part of reservoir 3.

Filling opening 5 is blocked by a removable stopper 6 and has a cylindrical sleeve 5a, in the axis of opening 5, extending over a few centimeters towards the interior of reservoir 3.

The lower end of sleeve 5a delimits the maximum level of filling of reservoir 3 when the iron is in the filling position, rocked forwards. Moreover, in this filling position, sleeve 5a provides in reservoir 3, on both sides of the sleeve 5a, a volume that is difficult to fill with water, constituting a reserve of air.

More particularly according to the invention, reservoir 3 is connected, by the intermediary of a supply tube 8, to a chamber 9 integrated in the front part of reservoir 3 and feeding a drip device plug 7 delivering water gradually into a steam chamber 10 integrated in heating soleplate 1.

The supply tube 8, which extends at the bottom of reservoir 3, preferably presents an internal diameter greater than 5 mm and has an end 8a opening freely at the rear of reservoir 3, in volume surrounding sleeve 5a. The other end 8b of the supply tube is connected to a drip preventing valve 11 interposed between reservoir 3 and chamber 9 for supplying drip device plug 7. In a known way, drip preventing valve 11 is controlled by a control unit, not represented, ensuring the closing of the valve when the temperature of the steam chamber is not sufficient for the production of steam.

In order to aid the filling of supply pipe 8 when the water level in reservoir 3 becomes low, a wall 16 is disposed at the rear of the reservoir. This wall 16 extends transversely to reservoir 3 over all the width of the latter. Wall 16 extends vertically, starting from the bottom of reservoir 3, to a height corresponding substantially to the outer diameter of tube 8 and has a notch into which supply tube 8 is inserted so that the connection between these two elements is waterproof. This wall 16, which is advantageously molded with reservoir 3, plays the role of a barrier collecting water coming from waves generated by front to back displacement of the iron during the ironing phases and maintaining it around end 8a. Such a barrier has the advantage of ensuring the good emptying of the reservoir although end 8a opens into the slightly elevated reservoir rear part of reservoir 3.

In accordance with figure 1, reservoir 3 is also provided with a vent circuit permitting water from the reservoir to flow without difficulty into supply tube 8. This vent circuit has a vent pipe 12 of small passage cross section extending into
5 reservoir 3 and comprising a rear end 12a advantageously connected to a hollow element 15 in the shape of a bell, not represented in figure 2, placed as far to the rear as possible in reservoir 3. Bell 15 plays the role of a pump eliminating, by aspiration, possible water drops attached by capillarity
10 inside vent pipe 12 when the iron is rocked from the vertical position, on its heel, to the horizontal position on its sole.

The vent pipe also has a front end 12b connected to a buffer chamber 13 placed above reservoir 3, at the front end of the latter. Buffer chamber 13 has a volume substantially equal to
15 the volume of water that can be contained in vent pipe 12 and has an upper wall provided with an opening 13a communicating with the surrounding air by the intermediary of a nozzle 14.

The pressing iron thus achieved has the advantage of allowing the filling of the reservoir, by holding the iron rocked
20 forwards, without risk of flow of water out of the reservoir.

In accordance with figure 3 which represents iron in a position adapted for the filling of the reservoir, supply tube 8 makes it possible, in this position, to prevent the reservoir from being emptied through drip device plug 7 when
25 the latter remains in a position provided for the production of steam. In effect, the end of supply tube 8 opens at the rear of reservoir 3 in an air pocket provided by the presence of sleeve 5a. Thus, only the small quantity of water present in supply tube 8 and supply chamber 9 can flow toward steam
30 chamber 10 when the iron is rocked forward, this small

quantity of water having every possibility of being evaporated in contact with steam chamber 10.

Buffer chamber 13 makes it possible, as for it, to prevent water from escaping through nozzle 14 of the vent circuit by
5 collecting water possibly present in the vent circuit when the iron is rocked forward.

Of course, the invention is by no means limited to the embodiment described and illustrated which was given only by way of example. Modifications remain possible, in particular
10 from the point of view of the constitution of the various elements or by substitution of technical equivalents, without departing as a result from the field protection of the invention.